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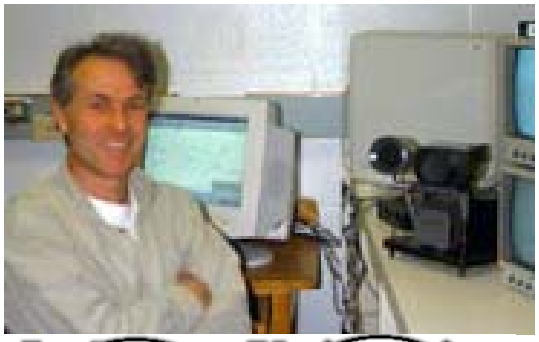

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Career Goals

- To understand how optics and biology limit normal and pathological visual performance.

49. To play a leading role in the advancement of Clinical Vision Science with the specific goal of employing advanced basic vision science to unresolved clinical problems.

9. To provide a high quality and stimulating learning environment for training optometrists and research scientists.

Academic Appointments

Full Professor at Indiana University, 2001 to present

Associate Professor of Visual Sciences, Indiana University (1991-2001)

Visiting Research Fellow, School of Optometry, Glasgow Caledonian University, Scotland

Visiting Research Fellow, School of Optometry, Queensland University of Technology, Australia

Member of Cognitive Sciences Faculty, Indiana University (1991-present)

Adjunct Professor of Neural Science, Indiana University (1987-present)

Assistant Professor of Visual Sciences, Indiana University (1985-1991)

Post-doctoral research scientist, Department of Psychology and

School of Optometry, University of California, Berkeley (5/83-8/85).

Lecturer, Department of Psychology, UC, Santa Cruz (1982)

Teaching Associate, School of Optometry, University of California, Berkeley, CA (1977-81).

Education

Ph.D., Physiological Optics, University of California, Berkeley
B.S.Hon.s (Upper second), Psychology, Reading University

Doctoral Dissertation

Psychophysical studies of human amblyopia (Prof. R.D. Freeman, advisor). Published as 5 articles in *Vision Research* and *Investigative Ophthalmology and Visual Science*.

Professional Society Memberships

Association for Research in Vision and Ophthalmology (ARVO)
Vision Science Society

Honors and Awards

Indiana University, Teaching Excellence Recognition Award (TERA), 1997, 1999.

Professor of Year Award, by Optometry Class of 2000, in 1999.

Visiting Scientist Fellowship, School of Optometry, Glasgow Caledonian University

Visiting Scientist Fellowship, Queensland University of Technology, Department of Optometry

Best Paper Award, SID 1991 (awarded in 1992)

Glenn Fry Award for Visual Science, American Optometric Foundation (1991)

Awarded Tenure at Indiana University (1991)

Promoted to Associate Professor at Indiana University (1991)

Honorable mention in the Optical Society of America Science Museum Competition (1990).

Nominated and elected as Fellow of the American Academy of Optometry (1989)

Promoted to full member of Indiana Graduate Faculty (1989).

Indiana University Summer Faculty Fellowship.

University of California Outstanding Teaching Assistant

ARVO Travel Scholarship.

University of California Chancellor's Patent Fund (1979).

American Academy of Optometry Fellowship

University of California Graduate Fellowships

Reading University Exchange Scholar

Research Grants

Shack Hartmann corneal topographer, NIH/STTR, 4/1/2002-3/31/2003, $118,000, co-PI

Cortical undersampling in Human Amblyopia, NIH (R01) Submitted 10/99, $650,000 (resubmission pending)

Spatially resolved optometer for human eyes, NIH STTR grant to Quarrymen Optical (I am 1/3 owner of this company) (1999-2000) $118, 320. Dr. Bradley is PI for the Indiana University portion of this collaborative project.

Non-veridical Perception in Human Amblyopes, ---, Co-investigator, (1997-99).

Remote eye movement recorder. Principal Investigator, (1996)

Entoptic Assessment of the retinal vasculature. National Eye Institute (NEI), (1994-6), I am co-writer of the grant and chief consultant to this project, $297,000.

Visual impact of Anti Reflective coatings, (1992-3), Principal investigator.

Head-Mounted Night Vision Systems: An Assessment of Visual Capability, NASA : July 1991-August 1992. Principal Investigator, $16,000.

Evaluation of Potential Visual Function in Cataract Patients, --- fund, Principal investigator, (1994).

Perceptual aliasing in human amblyopia, National Eye Institute (NIH), (1988-90). Principal Investigator, $24,981.

Institute for the Study of Human Capabilities, United States Air Force Office of Scientific Research, (1987-93). Joint Principal Investigator, $566,746 (direct costs).

Perception of Contour Orientation: A Comparison of Color and Luminance, NIH Biomedical Research Support Grant (1987-1988). Principal Investigator, $7,986.

Refereed Publications

1. Freeman, R.D. and Bradley, A. (1980) Monocularly deprived humans: N deprived eye has super-normal acuity. ***J. Neurophysiol.,* 43**, 1645-1652.

2. Hess, R.F. and Bradley, A. (1980) Contrast perception above threshold is only minimally impaired in human amblyopia. ***Nature (Lond.)*, 287**, 463 464.

3. Bradley, A. and Freeman, R.D. (1981) Contrast sensitivity in anisometro amblyopia. ***Invest. Ophthalmol. and Visual Sc.*, 21**, 467-472.

4. Bradley, A. and Freeman, R.D. (1982) Development of contrast sensitivi in children. ***Vision Res.*, 247**, 711-724.

5. Bradley, A., Rabin, J., and Freeman, R.D. (1983) Non-optical determinar of aniseikonia. ***Invest. Ophthalmol. and Visual Sc.* , 24**, 507-512.

6. Rabin, J., Bradley, A., and Freeman, R.D. (1983). The relationship betwe aniseikonia and axial anisometropia. ***Am. J. Optom. and Physiol. Optics* 60**, 553-558.

7. Hess, R.F., Bradley, A., and Piotrowski , L. (1983) Contrast coding in amblyopia I: Differences in the neural basis of amblyopia. ***Proc. Roy. Sc B.,* 217**, 309-330.

8. Bradley, A. (1983) Psychophysical studies of human amblyopia. **Ph.D. Thesis, University of California**, Berkeley.

9. Bradley, A. and Freeman, R.D. (1984) Reply to comments on variability contrast sensitivity methodology. ***Vision Res.*, 24**, 775.

10. Bradley, A. and Skottun, B.C. (1984) The effects of large orientation an spatial frequency differences on spatial discriminations. ***Vision Res.*****, 2**4 1889-1896.

11. Bradley, A. and Freeman, R.D. (1985) Temporal sensitivity in amblyopi An explanation of conflicting reports. ***Vision Res.*****, 25**, 39-46.

12. Bradley, A. and Freeman, R.D. (1985) Is reduced vernier acuity in amblyopia due to position, contrast, or fixation deficits? ***Vision Res.*****, 2** 55-66.

13. Bradley, A., Freeman, R.D., and Applegate, R.A. (1985) Is amblyopia spatial frequency or retinal locus specific? ***Vision Res.***, **25**, 47-54.

14. Bradley, A., Skottun, B.C., Ohzawa, I., Sclar, G., and Freeman, R.D. (1985) A neurophysiological evaluation of the differential response mo for orientation and spatial frequency discrimination. ***J. Opt. Soc. Am. A*** **2**, 1607-1610.

15. Skottun, B.C., Bradley, A., and Freeman, R.D. (1986) Orientation discrimination in amblyopia. ***Invest. Ophthalmol. and Visual Sc.,*** **27**, 5 537.

16. Howarth, P.A. and Bradley, A. (1986) The longitudinal aberration of th human eye and its correction. ***Vision Res.*****, 26**, 361-366.

Refereed Publications (continued)

17. Applegate, R.A., Adams, A.J., Bradley, A., and Elsner, A. (1986). Total occlusion does not disrupt photoreceptor alignment. ***Invest. Ophthalmol. and Visual Sc.*****, 27**, 441-443.

18. Howarth, P.A. and Bradley, A. (1986) The longitudinal chromatic aberration of the eye. ***Proceedings of the Northeastern State Symposium on theoretical and clinical optometry.*** pp124-137.

19. Bradley, A. and Ohzawa, I. (1986) A comparison of contrast detection and discrimination. ***Vision Res.*** **26**, 991-997.

20. Bradley, A., Dahlman, C., Switkes, E., and DeValois, K.K. (1986) A comparison of color and luminance discrimination in amblyopia. ***Invest. Ophthalmol. and Visual Sc.*** **27,** 1404-1409.

21. Skottun, B.C., Bradley, A., and Ramoa, A.S. (1986) Effect of contrast on spatial frequency tuning of neurons in area 17 of cat's visual cortex. ***Exp. Br. Res.*** **63**, 431-435.

22. Bradley, A., Skottun, B.C., Ohzawa, I., Sclar, G., and Freeman, R.D. (1987) Orientation and spatial frequency discrimination: A comparison of single cells and behavior. ***J. Neurophysiol.,*** **57**, 755-722.

23. Skottun, B.C., Bradley, A., Sclar, G., Ohzawa, I., and Freeman, R.D. (1987) Effects of contrast on orientation and spatial frequency discrimination: a comparison of single cells and behavior. ***J . Neurophysiol.*****, 57**, 773-786.

24. Bradley, A. and Skottun, B.C. (1987) Effects of contrast and spatial frequency on vernier acuity. ***Vision Res.,*** **27**, 1817-1824.

25. Thibos, L.N., Bradley, A., Still, D.L. and Henderson, P. (1987) Do white-light interferometers bypass the eye's optics? Clinical implications of decentering the optical beam in the pupil. ***Optical Society of America Technical digest: Topical meeting on noninvasive assessment of the visual system.*** 80-82.

26. Bradley, A., Switkes, E., and DeValois K.K. (1988) Orientation and spatial frequency selectivity of adaptation to color and luminance gratings. ***Vision Res.,*** **28**, 841-856.

27. Switkes, E., Bradley, A., and DeValois K.K. (1988) Contrast dependence and mechanisms of masking interactions among chromatic and luminance gratings. ***J. Opt. Soc. Amer. A ,*** **5**, 1149-1162.

28. Bradley, A. and Schor, C. (1988) The role of eye-movements and masking in monocular rivalry. ***Vision Res.*** **, 28**, 1129-1137.

29. Howarth, P.A., Zhang, X., Bradley, A.B., Still, D.L. and Thibos, L.N.

(1988) Does the chromatic aberration of the eye vary with age? ***J. Opt. Soc. Amer.*** **A 5**, 2087-2092.

30. Bradley, A., Applegate, R., Zeffren, B. and Van Heuven, W.J.A. (1989) Psychophysical evaluation of retinal vessels. ***OSA Digest: Topical Meeting on Non-invasive Assessment of the visual system,*** **7**,162-164

Refereed Publications (continued)

31. Thibos, T., Bradley, A. and Still, D. (1989) Visual acuity measured wit clinical maxwellian view systems: effects of beam entry location. ***Opt. Am. Digest: Topical Meeting on Non-invasive Assessment of the visu system,*** **7**, 94-97.

32. Thibos, L.N., Bradley, A., Still, D.L., Zhang, X. and Howarth, P.A. (19 Theory and measurement of ocular chromatic aberration. ***Vision Res.*** **3** 33-49.

33. Geddes, L., Patel, B., and Bradley, A. (1990) Comparison of Snellen ar Interferometric visual acuity in an aging non-cataractous population. ***Optom. Vis. Sci.*****, 67**, 361-365.

34. Switkes, E., Bradley, A., and Schor, C. (1990) Readily visible changes color contrast are insufficient to stimulate accommodation. ***Vision Research*****, 30**, 1367-1376

35. Applegate, R.A., Bradley, and van Heuven, W.A.J. (1990) Entoptic visualization of the retinal vasculature near fixation. ***Invest. Ophthalm Visual Sci.*** **,31**, 2088-2098.

36. Zeffren, B., Applegate, R.A., Bradley, A., and van Heuven, W.A.J. (19 Retinal fixation location within the foveal avascular zone. ***Invest. Ophthalmol. Visual Sc.*****, 31**, 2099-2105.

37. Bradley, A., Thibos, L. N. and Still, D. L. (1990). Visual acuity measur with clinical Maxwellian-view systems: effects of beam entry location. ***Optom. Vis. Sci.,*** **67**, 811-817.

38. Bradley, A., Zhang, X. and Thibos, L. N. (1991). Achromatizing the hu eye. ***Optom. Vis. Sci.*** **68**, 608-616.

39. Thibos, L. N., Bradley, A. and Still, D. (1991). Interferometric measurement of visual acuity and the effect of ocular chromatic aberrat ***Appl. Opt.*** **30**, 2079-2087.

40. Thibos, L. N., Bradley, A. and Zhang, X. (1991). The effect of ocular chromatic aberration on monocular visual performance. ***Optom. Vis. Sc*** **68**, 599-607.

41. Zhang, X., Bradley, A. and Thibos, L. N. (1991). Achromatizing the hu eye: the problem of chromatic parallax. ***J. Opt. Soc. Am. A.*** **8**,686-691.

42. Zhang, X., Thibos, L. N. and Bradley, A. (1991). A simple model to describe the relationship between the chromatic difference of focus and chromatic difference of magnification in human eyes. ***Optom. Vis. Sci.*** 456-458.

43. Bradley, A., Hook, J., and Haeseker, J. (1991) A comparison of clinica

acuity and contrast sensitivity charts: Effect of uncorrected Myopia. ***Ophth. Physiol. Optics 11,*** 218-226.

44. Ye, M., Bradley, A., Thibos, L.T., and Zhang, X.X. (1991) Interocular differences in transverse chromatic aberration determine chromostereop ***Vision Res 31,*** 1787-1796.

Refereed Publications (continued)

45. Bradley, A., Huerres, M., Kalaher, M., and Thomas, (1991) Effects of spherical and astigmatic defocus on acuity and contrast sensitivity: A comparison of three clinical charts. ***Optom. Vis. Sci.*** **68**, 418-426.

46. Bradley, A., Thibos, L. N., Zhang, X. and Ye, M. (1991).The effects of ocular chromatic aberration on visual performance for displayed achromatic and chromatic information. ***Society for Information Display International Symposiem Digest of Technical Papers***, pp 304-307.

47. Thibos, L. N., Ye M, Zhang, X, and Bradley, A. (1991) The Chromatic Eye: A new model of Ocular Chromatic Aberration, ***Opt. Soc. Am. Digest: Topical Meeting on Ophthalmic and Visual Optics,*** **2**, 16-19.

48. Zhang, X., Bradley, A., Ye M. and Thibos, L. N. (1991) An experimental model of bifocal vision. ***Optical Society of America Digest for the 1992 Ophthalmic and Visual Optics Topical Meeting. Series vol 3***, pp 102-105.

49. Applegate, R.A., Bradley, A, and Thibos, L.N. (1991) Visual Acuity and Pupil Size in Maxwellian and Free View Systems with and without Refractive Error. ***Optical Society of America Digest for the 1992 Non-invasive Assessment of the Visual System Topical Meeting.Series vol 1***, pp170-174.

50. Bradley, A., Applegate, R.A., Zeffren, B., and van Heuven, W.A.J. (1992) Psychophysical determination of the size and shape of the human foveal avascular zone. ***Ophthalmic Physiol Opt*** **, 12**, 18-23

51. Bradley, A. (1992) Perceptual manifestations of imperfect optics in the human eye: Attempts to correct for ocular chromatic aberration (Glenn Fry Award Lecture). ***Optometry and Vision Science***, ***69***, 515-521.

52. Bradley, A., Zhang, X., and Thibos, L.N. (1992) Failures of isoluminance caused by ocular chromatic aberrations ***Applied Optics***,

53. Bradley, A., Thibos, L.N., Wang, Y., Haggerty, K., and Poorman A. (1992) Imaging FWC. ***Ophthalmic and Physiological Optics***, **12**,

128-9.

54. Ye, M., Bradley, A., Zhang, X., Thibos, L.N. (1992) The effect of pupil size on chromostereopsis and chromatic diplopia: Interaction between the Stiles-Crawford Effect and chromatic aberration. ***Vision Research*** *,* **32**, 2121-28.

55. Thibos, L. N., Ye M, Zhang, X, and Bradley, A. (1992) The Chromatic Eye: A new reduced-eye model of Ocular Chromatic Aberration in humans, ***Applied Optics,*** **31**, 3594-600.

56. Atchison, A.A., Ye, M., Bradley, A., Collins, M.J., Zhang, X., Thibos, L., and Rahman, A. (1992) Chromatic Aberration and Optical Power of a Diffraction Bifocal Contact Lens. ***Optometry and Vision Science***, **69**, 515-521.

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57. Thibos, L.N. and Bradley, A. (1992) Use of interferometric visual stimulators in Optometry. ***Ophthalmic and Physiological Optics***, **12**, 206-8.

58. Applegate, R.A., Bradley, A, and Thibos, L.N. (1992) Visual Acuity and Pupil Size in Maxwellian and Free View Systems with and without Refractive Error. ***Optical Society of America Digest for the 1992 Non-invasive Assessment of the Visual System Topical Meeting. Vol 1***, 170-4.

59. Zhang, X., Bradley, A., Ye M. and Thibos, L. N. (1992) An experimental model of bifocal vision. ***Opt. Soci. of Am. Digest 1992 Ophth. and Vis. Opti.Topical Meeting*****. vol 1,** 62-5.

60. Zhang, X, Bradley, A, and Thibos, LN (1993) Experimental determination of the chromatic difference of magnification of the human eye and the location of the anterior nodal point. ***J. Opt. Soc. Am. A 10***, 213-220.

61. Thibos, LN. and Bradley A (1993) New Methods for discriminating neural and optical losses of vision. ***Optom. Vis. Sci. 70***, 279-287.

62. Bradley, A., Rahman, H.A., Soni, S. and Zhang, X. (1993) Effects of target distance and pupil size on letter contrast sensitivity with simultaneous vision bifocal contact lenses. ***Optom. Vis. Sci. 70***, 476-481.

63. Thibos, LN, Ye, M, Zhang, X, and Bradley, A (1993) A new model of the human eye. ***Optics and Photonics News***, Dec., 1993, p. 12.

64. Zhang, H., Bradley, A., Thibos, L.N., Applegate R.A., and Elsner, A. (1994) Comparison of Entoptic, Fundus Photographic and Fluorescein

Angiographic Methods for Viewing the Retinal Vasculature. ***Optical Soc. Am. Technical Digest, vol 2 (Vision and its Applications)***. pp 228-231.

65. Bradley, A. (1994) AR Coatings can improve Visual Acuity. ***Optometry Today***, Sept. 1994, p 37.

66. Atchison D., Bradley A., Thibos LN, and Smith G, (1995) Useful variations of the Badal Optometer. ***Optical Soc. Am. Technical Digest, vol 2 (Vision and its Applications)***. pp 155-8.

67 Winn, B., Bradley, A., Strang, N. C., McGraw, P. V. & Thibos, L. N. (1995). Reversals of the colour-depth illusion explained by ocular chromatic aberration. ***Vision Research,*** **35,** 2675-2684.

68. Atchison, D.A., Smith, G., Bradley, A. and Thibos, L.N. Useful variations of the Badal optometer. (1995) In *Vision Science and its Applications (**OSA Technical Digest Series, Vol 1.**)* (pp. 155-158). Washington, DC: Optical Society of America.

69. Atchison, D.A., Smith, G., Bradley, A. and Thibos, L.N. (1996) Useful variations of the Badal optometer. ***Optom. Vis. Scis,*** **72,** 279-284.

Refereed Publications (continued)

70. Thibos, L. N., Still, D. L. & Bradley, A. (1996). Characterization of spatial aliasing and contrast sensitivity in peripheral vision**.** ***Vision Research,*** 36, 249-258.

71. Wang, Y. Z., Thibos, L. N. & Bradley, A. (1996). Undersampling produces non-veridical motion perception, but not necessarily motion reversal, in peripheral vision. ***Vision Research,*** **36**, 1737-1744.

72. Woods, R.L., Bradley, A and Atchison, D.A. (1996) Monocular diplopia caused by ocular aberrations and hyperopic defocus. ***Vision Research*****, 22**, 3597-3606.

73. Wang, Y. Z., Thibos, L. N., Lopez, N., Salmon, T. & Bradley, A. (1996). Subjective refraction of the peripheral field using contrast detection acuity. ***Journal of the American Optometric Association,*** **67**, 584-589.

74. Woods, R.L., Bradley, A and Atchison, D.A. (1996) Consequences of monocular diplopia for the contrast sensitivity function. ***Vision Research*****, 22**, 3587-3596.

75. Rynders, M.C., Thibos, L.N., **Bradley, A.** (1996) Apodization neutralization: a new technique for investigating the impact of the Stiles-Crawford effect on visual function. In ***Basic and Clinical***

Applications of Vision Science, Lakshminarayanan, V. (ed), Dordrecht, The Netherlands: Kluwer Academic Publishers

76. Nuñez, R, Applegate, R.A., Bradley, A. and Hendricks, J.J., (1996) Clinical Version of the Vascular Entoptoscope," ***Vision Science and Its Applications, 1996 Technical Digest Series***, (Optical Society of America, Washington, DC, 1:160-163.

77. Wang, Y., Bradley, A**.** & Thibos, L. N. (1997) Aliased frequencies enable the discrimination of compound gratings in peripehral vision. ***Vision Research,*** 37, 283-90.

78. Wang, Y. Z., Bradley, A. & Thibos, L. N. (1997). Interaction between sub- and supra-Nyquist spatial frequencies in peripheral vision. ***Vision Research,*** 37, 2545-2552.

79. Applegate, R.A., Bradley, A., van Heuven, W.A.J., Lee, B.L. and Garcia, C.A. (1997) Entoptic Evaluation of Diabetic Retinopathy. ***Investigative Ophthalmology & Visual Science,*** 38, 783-791.

80. Wang, Y. Z., Thibos, L. N. & Bradley, A. (1997) Effects of refractive error on detection acuity and resolution acuity in peripheral vision. ***Investigative Ophthalmology & Visual Science,*** (in press).

81. Ross, J. and Bradley, A. (1997) Visual performance and patient preference: a comparison of anti-reflection coated and uncoated lenses. ***J. Am. Optometric Ass***. 68, 361-366.

Refereed Publications (continued)

10. Thibos, L.N., Ye, M., Zhang, X, & Bradley, A. (1997) Spherical aberration of the reduced schematic eye with elliptical refracting surface. ***Optometry & Vision Science*** , 74, 548-556.

11. Zhang, X, Thibos, L.N., and Bradley, A. (1997) Wavelength-dependent magnification and polychromatic image quality in eyes corrected for longitudinal chromatic aberration**. *Optometry & Vision Science*** , 74, 563-569.

84. Kato, M and Bradley, A. (1997) A comparison of the effects of defocus letter acuity and contrast sensitivity. ***Japanese Optometric Association J.*** 15, 10-24.

85. Thibos, L.N. and Bradley, A. (1997) Use of liquid crystal adaptive optics to alter the refractive state of the eye. ***Optometry & Vision Science*** , 74, 581-587.

86. Bradley, A., Zhang, H., Applegate, R.A., Thibos, L.N., and Elsner, A.E. (1998) Evaluation of entoptic image quality of the retinal vasculature. ***Vision Research*** 38, 2685-2696.

87. Strang, NC, Winn, B, and Bradley A (1998) The role of neural and optical factors in limiting visual resolution in myopia. ***Vision Res***. 38, 1713-1721.

88. Atchison, D.A., Woods, R.L. and Bradley, A. (1998) Ocular transverse aberrations predict the complex effects of optical defocus on human contrast sensitivity. ***J. Opt. Soc. Am. A*** 15, 2536-2544.

89. Salmon, TO, Thibos, LN, and Bradley, A (1998) Comparison of the eye's wavefront aberration measured psychophysically and with the Shack-Hartmann wavefront sensor. ***J. Opt. Soc. Am. A*** 15, 2457-2465.

90. Zhang, X, Ye, M, Bradley, A, and Thibos, L (1999) Apodization by the Stiles-Crawford Effect moderates the visual impact of retinal image defocus. ***J. Opt. Soc. Am. A.*** **16**, 812-820.

91. Barrett, BT, Whitaker, D and Bradley, A (1999) Vernier acuity with compound gratings: The whole is equal to the better of its parts ***Vision Res***. 39, 3681-3691.

92. Hilmantel G, Applegate RA, van Heuven WA, Stowers SP, Bradley A, Lee BL. (1999) Entoptic foveal avascular zone measurement and diabetic retinopathy. ***Optom Vis Sci***. 76, 826-31.

93. Applegate R, Thibos LN, Bradley, A, Marcos S, Roorda A, and Salmon, T (2000) Reference axis selection: A subcommittee report of the OSA working group to establish standards for the measurement and reporting of the optical aberration of the eye. ***Opt. Soc. Am. VSIA Technical Digest***, 2000, pp 146-149.

94. Cheng, Hong, Thibos, Bradley, Himebaugh, Riley and Miller (2003) Increased Optical Aberrations in Myopia, ***Proceedings of the VIII International Conference on Myopia***, pages122-126.

Refereed Publications (continued)

95. Tutt, Bradley, Begley and Thibos (2000) Optical and visual Impact of tear Break-up. ***Invest. Ophthal. Vis. Sci*** 41:4117-23.

96. Bingham J, Bradley A, Bailey, M and Vinner R (2000) Accommodation, occlusion and disparity matching are used to guide reaching: A comparison of actual vs. virtual environments. ***J. Exp. Psychol: Hum Perc. & performance*** 27, 1-21.

97. Nikole L. Himebaugh, Larry N. Thibos, Carolyn G. Begley, Arthur Bradley, and Graeme Wilson (2000) Predicting optical effects of tear film break-up on retinal image quality using the Shack-Hartmann aberrometer and computational optical modeling. ***Proceedings of the Third International Conference on the Lacrimal Gland***, Tear Film, and Dry Syndromes: Basic Science and Clinical, in Advances in Experimental Medicine and Biology.

98. Bradley, A (2000) The changing face of refractive surgery. ***Indiana J. of Optometry*** vol 3, 5-12.

99. Hong, X., Thibos, L.N., Bradley, A., Miller, D., Cheng, X. and Himebaugh, N. (2001) Statistics of aberrations among healthy young eyes. In: ***Vision Science and Its Applications, Technical Digest (Optical Society of America, Washington, D.C.)*** pp. 90-93

100. Wang, Y.Z., Thibos, L.N., and Bradley, A. (2001) Modeling the sampling properties of human cone photoreceptor mosaic. In***: Vision Science and Its Applications, Technical Digest (Optical Society of America, Washington, D.C.)*** pp. 20-23.

101. Thibos LN, Hong X, Bradley A, Cheng X Statistical variation of aberration structure and image quality in a normal population of healthy eyes. ***J Opt Soc Am A Opt Image Sci Vis***. 2002 Dec;19(12):2329-48.

102. Thibos LN, Bradley A, Hong X. A statistical model of the aberration structure of normal, well-corrected eyes. ***Ophthalmic Physiol Opt***. 2002 Sep;22(5):427-33.

103. Whitaker D, Bradley A, Barrett BT, McGraw PV. Isolation of stimulus characteristics contributing to Weber's law for position. ***Vision Res***. 2002 Apr;42(9):1137-48.

104. Thibos, L.N., Cheng, X., and Bradley, A. (2002) Design principles and limitations of wavefront-guided contact lenses. ***Journal of Contact Lens Association of Ophthalmologists.***

Published Editorials

Bradley, A. (1991) Noninvasive Assessment of the Visual System, ***Optics and Photonics, 2,*** 50

Bradley, A (1993) Simultaneous Bifocal and Multifocal Vision: from theory to practice. ***Optom. Vis. Sci. 70***, 437-438.

Thibos, L.N., Elliott, D.B. and Bradley, A. (1995) Vision and Aging: Part 2 (Introduction to second of three Feature Issues). ***Optom. Vis. Sci.*** **72**, 50-51.

Thibos, L.N., Elliott, D.B. and Bradley, A. (1995) Vision and Aging: Part 3 (Introduction to third of three Feature Issues). ***Optom. Vis. Sci.*** **72**, 149-150.

Bradley, A. and Soni PS (1999) Report from Washington: A summary of Optometric activity at the FDA. ***Indiana Journal*** Vol. 2, # 1.

Bradley, A (2000) Ocular UV hazards, ***Indiana Alumni Magazine***, July.

Published Reports

Ross, J. and Bradley A. (1992) Comparison of patient preference and visual performance with anti-reflection coated and un-coated spectacle lenses. Prepared for the **Anti-reflection Coating Council of America**

Bradley, A, (1994) Evaluation of Visual Acuity with Gen III Night Vision Goggles. **NASA Technical Memorandom 108792**.

Bradley, A. (1998) co-authored report of the peer review panel on Photokeratectamy (PRK) research. **American Institute of Biological Sciences.**

Published Books

Optometry Examination Review, Co-authored with Locke L., Chang, F., Gerstman, D., and Pietch P. **Appleton and Lange Publishers**, 1994

Published Book Chapters

Bradley A and Thibos LN (1995) Modeling off-axis vision - I: the optical effects of decentering visual targets or the eye's entrance pupil, in Applied Spatial Vision models, edited by Peli E., *World Scientific Press.*

Thibos, LN and Bradley A (1995) Modeling off-axis vision - II: the effect of spatial filtering and sampling by retinal neurons, in Applied Spatial Vsion models, edited by Peli E.*World Scientific Press.*

Thibos, LN and Bradley A (1998) *Modeling the refractive and*

Neurosensor systems of the eye, an invited chapter in "Visual Instrumentation, Optical Design and Engineering Principles." edited by Professor Zakos Mouroulis, McGraw-Hill, NewYork.

Published Patents

Vascular Entoptoscope, jointly developed by Applegate R.A. and Bradley, A. **U.S. Patent** awarded 1994, Patent # 5,360,010.

In Press Manuscripts

1. Non-Veridical Visual Perception in Human Amblyopia., B.T. Barrett, I.E. Pacey, A. Bradley, L.N. Thibos, P. Morrill IOVS, in press, 2002.
2. Design Principles and Limitations of Wavefront-guided Contact Lenses Larry N. Thibos, Xu Cheng, and Arthur Bradley, CLAO Journal, in press 2002.
3. USE OF RETROILLUMINATION TO VISUALIZE OPTICAL ABERRATIONS CAUSED BY TEAR FILM BREAK-UP Nikole L. Himebaugh, Annette R. Wright, Arthur Bradley, Carolyn G. Begley, Larry N. Thibos, OVS, in press, 2002.
4. Relationship between Refractive Error and Monochromatic Aberrations of the Eye, Xu Cheng, Arthur Bradley, Xin Hong, Larry N. Thibos, OVS, in press 2002.
5. Effects of Tear Film Break-Up on Optical Aberrations and Light Scatter in the Human Eye, Nikole L. Himebaugh, Arthur Bradley, Carolyn G. Begley, Larry N. Thibos, IOVS, under revision, 2002.
6. Comparison of monochromatic ocular aberrations measured with a cross-cylinder aberroscope and a Shack-Hartmann wavefront sensor Xin Hong, Larry N. Thibos, Arthur Bradley, Russell L. Woods, Raymond A. Applegate, OVS, in press, 2002.
7. Variation in ocular aberrations over seconds, minutes, hours, days, months, and years, Larry N. Thibos and Arthur Bradley WAVEFRONT CUSTOMIZED VISUAL CORRECTION: THE QUEST FOR SUPER VISION

Published Abstracts

1. Bradley, A. and Freeman, R.D. (1979) Contrast sensitivity in anisometropic amblyopia. *Invest. Ophthal. Vis. Sci.* **18** (suppl.), 201.

2. Bradley, A. and Freeman, R.D. (1980) Vernier acuity in monocularly deprived humans. *J. Physiol. (Lond.)* **306**, 36.

3. Hess, R.F., Bradley, A., and Campbell, F.W. (1980) Contrast coding in functional amblyopia: Further evidence of neural differences. *Opt. Soc. Am.: Topical meeting on recent advances in vision*. SB7.

4. Bradley, A. and Ohzawa, I. (1980) A comparison of contrast detection and discrimination.. *Invest. Ophthal. Vis. Sci.* **19** (suppl.), 9.

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6. Bradley, A. and Freeman, R.D. (1982) Position sensitivity in amblyopia.. *Invest. Ophthal. Vis. Sci.* **22** (suppl.), 89.

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8. Bradley, A. and Freeman, R.D. (1983) An explanation of conflicting reports on flicker sensitivity in amblyopia. *Invest. Ophthal. Vis. Sci.* **24** (suppl.), 20.

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10. Skottun, B.C., Bradley, A., and Ohzawa, I. (1983) Orientation and spatial frequency discrimination: Cat single cells and human psychophysics. *Society for Neurosc.*

11. Switkes, E., Bradley, A., and DeValois, K.K. (1984) Contrast dependence on color-luminance interactions. *Invest. Ophthal. Vis. Sci.* **25** (suppl.), 232.

12. 12. Howarth, P.A. and Bradley, A. (1984) The efficacy of lenses used to correct for the longitudinal chromatic aberration of the human eye. *Invest. Ophthal. Vis. Sci.* **25** (suppl.), 221.

13. Bradley, A., Switkes, E., and DeValois, K.K. (1985) Orientation and spatial frequency selectivity of adaptation to color contrast. *Invest. Ophthal. Vis. Sci.* **26** (suppl.), 182.

14. Bradley, A., Switkes, E., and De Valois, K.K. (1985) Adaptation to color contrast: orientation and spatial frequency selectivity. *Eighth European Conference on Visual Perception*.

15. Bradley, A. and Schor, C. (1986) Monocular rivalry: Is there any rivalry?. *Invest. Ophthal. Vis. Sci.* **27** (suppl.), 340.

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20. Bradley, A. and Thibos, L.N. (1987) Amblyopia: Aliased vision through undersampling. *Amer. J. Optom. Physiol. Optics* **64**, 105P.

21. Thibos, L.N., Still, D.L. and Bradley, A. (1987) The relationship between transverse and axial chromatic aberration of the human eye. *Amer. J. Optom. Physiol. Optics* **64**, 59P.

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23. Bradley, A and Thibos, L.N. (1988) Perceptual aliasing in human amblyopia. *Invest. Ophthal. Vis. Sci.* **29** (suppl.), 76.

24. Zhang, X., Bradley, A. and Thibos, L.N. (1988) Achromatizing lenses may increase chromatic aberration in the retinal image. *Invest. Ophthal. Vis. Sci.* **29** (suppl.), 446.

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58. Thibos, L.N. and Bradley, A. (1991) Fun with Interferometers. Presented at the Fergus Fest in Cambridge, England. Ophthalmic Physiol Optics

59. Bradley, A., Rahman H.A., Soni, P.S., and Zhang, X (1991) Through-focus measures of vision with 2-zone and diffractive bifocal contact lenses. American Academy of Optometry Symposium on Simultaneous Bifocal and Multifocal Vision.

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American Academy of Optometry Annual Meeting.

61. Ye, M., Zhang, X., Thibos, L.N., and Bradley, A. (1993). A new single-surface model eye that accurately predicts chromatic and spherical aberrations of the human eye. *Invest. Ophthal. Vis. Sci.* 34 (suppl.), 774.

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65. Zhang, H., Bradley, A., and Applegate R.A. (1993) Comparison of entoptic and fundus camera images of the human retinal blood vessels. AAO, Boston.

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72. Woods, R, Bradley, A, and Atchison, D (1995) Monocular diplopia and notches in the CSF caused by ocular aberrations and defocus. *Invest. Ophthal. Vis. Sci.* **36** (suppl.), #4318.

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84. Winn, B., A. Bradley, P.V. McGraw, N.C. Strang and L.N. Thibos Chromostereopsis, transverse chromatic aberration and target configuration. ARVO '97

85. Bradley, A., R. Malach, R. Van Sluyters, P. McGraw, B. Winn (1997) The role of chronic deprivation in determining the edge of the neurally limited visual field. ARVO '97.

86. Tutt, C.G. Begley, A. Bradley, L.N. Thibos The optical effects of tear film disruption. ARVO '97

87. Thibos, LN and Bradley A, Retina deceiving and the cortex mis-believing: spatial and temporal aliasing in human vision. Festschrift for Professor Bill Levick, Canberra, Australia, 1997.

88. Salmon, T, Thibos, LN and Bradley A, Hartmann-Shack sensor accuracy and precision in measuring aberrations of the eye. Annual Meeting of the Optical Soc. Am. 1997.

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89. Wang, Y, Hess, RF, Bradley A and Thibos, LN Effects of optical aberrations on the sensitivity for radial frequency modulations, Annual Meeting of the Optical Soc. Am. 1997.

90. Thibos, LN and Bradley A, Use of liquid crystal adaptive optics to alter the refractive state of the eye, Annual Meeting of the Optical Soc. Am. 1997.

91. Tutt, C.G. Begley, A. Bradley, L.N. Thibos The optical changes caused by tear film disruption. Am. Academy of Optometry Annual meeting, 1997.

92. Bradley, A; Zhang, X, Ye, M, and Thibos, LN (1998) Moderating influence of Stiles-Crawford Effect apodization and spherical aberration on defocused retinal images. ARVO '98.

93. Bradley, A. Hong, X. Chung, STL and Thibos, LN (1999) The impact of defocus-induced phase reversals on letter recognition is different for hyperopes and myopes. ARVO '99.

94. Thibos, LN, Hong, X, Bradley, A, and Begley, C (1999) Deterioration of retinal image quality due to break up of tear film. ARVO (1999).

95. Annette R. Wright, Nikole L. Himebaugh, Carolyn G. Begley, Arthur Bradley, Larry N. Thibos, Graeme S. Wilson (1999) Retroillumination of the tear film during break up. American Academy of Optometry, Annual meeting, 1999.

96. Nikole Himebaugh, Annette Wright, Larry Thibos, Carolyn Begley, Arthur Bradley, Graeme Wilson (1999) Comparison of fluorescein and Shack-Hartmann wavefront sensing methods for monitoring tear film breakup. American Academy of Optometry, Annual meeting, 1999.

97. Ann Song, Brent Schmidlap, Arthur Bradley, Carolyn G. Begley (1999) Filters for enhanced viewing of conjunctival staining with Rose Bengal, Lissamine Green, and Fluorescein. American Academy of Optometry, Annual meeting, 1999.

98. Larry N. Thibos, Nikole Himebaugh, Annette Wright, Xin Hong, Arthur Bradley, Carolyn Begley (2000) Comparison of fluorescein, retro-illumination, and Shack-Hartmann wavefront sensing methods for monitoring tear flim break-up. ARVO 2000.

99. Xin Hong, Larry N. Thibos, Arthur Bradley, Indiana Aberration Study Group (2000) Population statistics for the wave aberration function of the normal human eye, Opt. Soc. Am. Annual meeting.

100. Zhao H, Miller D, Thibos L, Hong X, Bradley A, Himebaugh N (2000) A Fried's parameter for the human eye? Opt. Soc. Am. Annual

meeting.

101. Thibos, Bradley, Barrett and Pacey (2000) A Computational Model of Amblyopia as Non-veridical Perceptual Aliasing due to Neural Undersampling in the Primary Visual Cortex, Autralasian Winter conference in Brain Research.

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102. Nikole L. Himebaugh, Larry N. Thibos, Carolyn G. Begley, Arthur Bradley, and Graeme Wilson (2000) Predicting optical effects of tear film break-up on retinal image quality using the Shack-Hartmann aberrometer and computational modeling. International Tear Film and Ocular Surface Society meeting.

103. Cheng, Hong, Thibos, Bradley, Himebaugh, Riley and Miller (2000) Increased Optical Aberrations in Myopia, ***Presented at the VIII International Conference on Myopia***.

104. Pete Kollbaum, Arthur Bradley, Carolyn Begley (2000) Expanding depth of focus in the presbyopic contact lens patient. Am Acad. Optom. Annual meeting.

105. Xin Hong, Larry Thibos, Arthur Bradley, Donald Miller, Xu Cheng and Nikole Himebaugh (2001) Statistics of aberrations among healthy young eyes, Opt. Soc. Am. VSIA meeting,

106. Yi-Zhong Wang, L.N. Thibos, and Arthur Bradley (2001) Modeling the Sampling Properties of Human Cone Photoreceptor Mosaic, Opt. Soc. Am. VSIA meeting,

107. Arthur Bradley, Xin Hong, Larry Thibos, Xu Cheng and Donald Miller (2001) The statistics of monochromatic aberrations from 200 healthy young eyes, ARVO

108. X. Hong, LN. Thibos, A. Bradley, X. Cheng, DT. Miller, C. Riley and N. Himebaugh (2001) Impact of monochromatic aberrations on polychromatic image quality and vision, ARVO

109. D.T. Miller, F. Zhou, X. Hong, A. Bradley, and L.N. Thibos (2001) Shack-Hartmann corneal topographer, ARVO.

110. P. Kollbaum, C. Begley, and A. Bradley (2001) Tthrough-focus contrast sensitivity in presbyopic contact lens corrections, ARVO.

111. G. Tondel, D.G. Horner, A. Bradley, G. Wilson, R. T. Candy (2001) Infant Accommodation Dynamics Measured by Eccentric Videorefraction, ARVO.

Selected Invited Lectures

Bradley, (2000) Optics of tears. The Ohio State School of Optometry.

Bradley (1999) The Complexities of Image Defocus***. Indiana University, School of Optometry, Oxyopia.***

Bradley (1999) Comparisons between retinal and cortical undersampling. . ***Indiana University, School of Optometry, Oxyopia***.

Bradley (1998) Perceptual consequences of image defocus. School of Optometry, ***City University, London***.

Bradley, A (1997) Clinical potential of "self-Ophthalmoscopy", ***Borish Center*** Advisory Board Meeting

Bradley, A (1997) Exciting clinically-relevant optics and visual function research at ***I.U. School of Optometry***. Endowment campaign leadership committee meeting.

Bradley, A. (1997) Effects of Defocus on Vision. ***I.U. School of Optometry*** Research Seminar (Oxyopia).

Bradley, A (1997) Perceptual aliasing caused by retinal undersampling, ***Miami University, Ohio***.

Bradley, A. (1996) The Power of Psychophysics: presented at ***CIBA Vision's*** weekly seminar, Atlanta, GA.

Bradley, A. (1996) Fuzzy thinking about fuzzy images: the importance of phase reversals caused by defocus. Distinguished Visiting Professor lecture series at ***University of Bradford, England***.

Bradley, A. (1996) The impact of undersampling in the peripheral retina. Optometry School research seminar, ***Univ of Bradford, England***.

Bradley, A, (1995) The role of ocular aberrations in Simultaneous Vision Bifocals. **CIBA Vision Symposium, Atlanta**.

Bradley, A. (1995) Optical abrrations and monocular diplopia, *Oxyopia*, ***Indiana University***.

Bradley,A. and Thibos, L.N. (1995) Axes of the Human Eye*:* ***Optical Society of America***. Now available on the WWW.

Bradley, A. (1994) Effect of Chromatic aberration on visual function. ***Queensland University of Technology, Australia***.

Bradley, A. (1994) Entoptic images of the retinal vasculature. ***Glasgow Caledonian University, Scotland*** .

Bradley, A. (1991) Perceptual manifestations of imperfect optics in the human eye: Attempts to correct for ocular chromatic aberration**,** ***Glenn Fry Award Lecture, American Academy of Optometry*****..**

Selected Invited Lectures (continued)

Bradley A and Thibos LN (1991) Incorporating the eye's optics into an applied model of detection and identification of objects: Presented to the ***Armstrong Labs Advisory Group Conference San Antonio**, TX.*

Bradley, A., Thibos, L. N., Zhang, X. and Ye, M. (1991).The effects of ocular chromatic aberration on visual performance for displayed achromatic and chromatic information. ***Society for Information Display** International Symposium Digest of Technical Papers, pp 304-307.*

Bradley, A. (1990) From Photons to Fantasy: An exploration of Visual Perception. ***Science North, Sudbury, Canada**.*

Bradley, A (1990) Research issues for Night Vision Goggles, presented to ***NASA, Ames Research Center, California**.*

Bradley, A., Thibos, L. N., Zhang, X. and Ye, M. (1990) Perceptual errors caused by ocular chromatic aberration. *Human Error Conference:* ***Indiana Institute for the Study of Human Capabilities**.*

Bradley, A (1990) Chromatic Aberration of the human eye: Can it and should it be corrected? ***School of Optometry, UC, Berkeley, CA*** .

Bradley, A., Thibos, L. N., Zhang, X.(1989) Achromatizing the human eye. ***American Academy of Optometry** Symposium on the Optical Limits to Visual Performance. New Orleans, LA .*

Bradley, A (1989) Correcting the eye's chromatic aberration. ***School of Optometry, Ohio State University**, Columbus, OH.*

Bradley, A (1989) Chromatic aberration: should it be corrected? ***School of Optometry, Aston University, England**.*

Bradley, A (1989) Chromatic aberration in the human eye. ***Dept. of Experimental Psychology, University of Cambridge, England**.*

Bradley, A (1988) A sensory explanation for perceptual fluctuations. ***Dept. of Psychology, University of Texas, Austin, TX*** .

Bradley, A (1988) Chromatic aberration in the human eye and its effect on retinal image quality. ***Dept. of Ophthalmol, Univ Texas, San Antonio***

Bradley, A (1988) Is amblyopia just a foveal anomaly? ***Laser laboratory, Brooks Air Force base, San Antonio, TX*** .

Bradley, A (1986) The spatial deficit in amblyopia: Desensitization, scrambling, or undersampling? ***Schurmacher Institute for Vision Research, School of Optometry, SUNY, NY*** .

Bradley, A (1985) "Gratingology" its role in facilitating and obfuscating the understanding and treatment of amblyopia. *Annual meeting of the* ***American Academy of Optometry**, Symposium on*

Selected Invited Lectures (continued)

Bradley, A (1984) Image quality in the human eye. *School of Optometry,* Bradley, A (1983) Orientation and spatial frequency discrimination: A quantitative comparison of single cells and psychophysics, ***Neuroscience Institute, Portland, Oregon*** .

Bradley, A (1983) Psychophysical studies of human amblyopia. ***School of Optometry, University of Missouri, St. Louis .***

Bradley, A (1983) A clinical evaluation of animal models of human amblyopia, *School of Optometry, University of Missouri, St. Louis*

Professional Service

Journal Referee

American Journal of Ophthalmology,
American Journal of Optometry and Physiological Optics,
Applied Optics.
Archives of Ophthalmology,
Behavior Research Methods, Instruments, & Computers,
Butterworths Scientific Publishers,
Clinical Vision Research,
Developmental Psychobiology,
Gordon Heath Symposium Papers,
Human Factors,
IEEE Proceedings,
Investigative Ophthalmology and Visual Science,
Journal of Neurophysiology,
Journal of the Optical Society of America,
Journal of Vision
Ophthalmic and Physiological Optics,
Optics Express,
Optometry and Vision Science,
Perception
Vision Research,
Journal of Vision
Handbook of Optics

Grant Proposal Referee

US Air Force Office of Scientific Research (1991)
National Eye Institute (NIH) (1991, 1992, 2002)
National Science Foundation (1989, 1993, 1999, 2001, 2002)
NIH BRSG for Indiana University (1990-94)

Packard Fellowships and Howard Hughs grant applications (1993)
Indiana Branch of the American Academy of Optometry (1991-3)
Canadian Research Council (1993)
Dutch Research Council (1999)
U.S. Navy (2000)

Book Reviewer

Appleton and Lange
"Visual Perception, a clinical orientation", by Schwartz,
"Binocular Vision" by Steinman, Steinman and Garzia.

Professional Associations

Nominated as full-time voting member for FDA Ophthalmic Devices panel (2000-2003).

Appointed visual optics member of American Institute of Biological Sciences review panel for PRK (1997-8).

Nominated as full-time voting member for FDA Ophthalmic Devices panel (1997-8) (nomination declined).

Appointed advisory member of the Ophthalmic Devices panel of the FDA. (1994-2000)

Appointed Special Edition (Aging) editor for Optometry and Vision Science (1994-5)

Appointed special consultant/advisor to the American Optometric Association meeting on research methods (1994).

Appointed to the FDA panel to assess visual function tests (1993-4).

Nominated as topical editor for Optometry and Vision Science (1993)

Member of the Advisory Board for Vision and its Applications (1993-4)

General Chair of the 1993 Noninvasive Assessment of the Visual System Annual meeting

Program Chair for the 1992 Noninvasive Assessment of the Visual System Annual meeting

Member of the Program Committee for the Ophthalmic and Visual Optics Annual meeting (1991-92)

Appointed Member of the Advisory Committee for the Noninvasive Assessment of the Visual System Annual meeting (1989-93).

Appointed Program Chair for the 1992 Noninvasive Assessment of the Visual System Annual meeting (1989).

Appointed to the Non-Invasive Assessment of the Visual System Program Committee (1989-91).

Appointed to editorial group of "Dictionary of Visual Science" (1989).

Indiana University

Member of the Indiana University IRB (2002-3)

Founding member of editorial board for Indiana Journal of Optometry(1998)

Member of Student Awards, Faculty Evaluation, Teaching Awards, and Web committees (1999).

Member of the 1999 Search and Screen committee responsible for filling 3 faculty positions within the School of Optometry.

Member of the 1998/9 Search and Screen committee responsible for filling 5 clinical positions within the School of Optometry.

Member of the 1998 Search and Screen committee responsible for selecting a new Dean for the School of Optometry.

Formal mentor for junior faculty, School of Optometry (1997-2000)

Member of the NSF research program to attract high school students to scientific careers. This involved writing a research proposal suitable for high school students, and supervising four students during the summer semester (1992-3).

Member of 6 person University BRSG committee. Annually we review approximately 20 research proposals and disperse approximately $150,000 in research funds (1990-94).

Member of the Dean of faculties Advisory Board of Indiana University (1992-3).

Member of the Steering Committee for the Indiana University Teaching and Learning Center (1992-3).

Chair of School of Optometry Graduate Student Progress Committee (1993-4)

Chair of Research Planning Committee for the School of Optometry (1992-3).

Member search and screen committee for a new Optometry faculty position (1992).

Chair of IU School of Optometry hiring policy committee (1991)

Member of School of Optometry Search and Screen Committee (1991)

Member of the NSF/IU Summer Science Institute (1991)

Member of the Dean of Faculties Advisory Board (1991)

Organizer of inter-departmental seminar series on Skilled Human Performance (1988).

Contributor to Indiana University Research Expo (1988)

Organizer of Indiana University Symposium to honor Dr. Gordon Heath (1988)

Member of committee to reorganize entire school curriculum (1988)

Contributor to The I.U. School of Optometry Continuing Education

Program (1987, 1988. 90, 91, 92)
Chair of Computer Graphics Committee (1986)
Organizer of Optometry School Research Seminar (1986-94)

Graduate Student Thesis Committees

Proprietary information deleted.

External Ph.D. Examiner

Proprietary information deleted.

Teaching Experience:

Didactic Contributions to the Doctor of Optometry Degree Program:

Monocular Visual Function:
30 lectures and 5 lab course introducing the visual capabilities of the human visual system, how t measure them, what determines them, and common malfunctions due to pathology.

Binocular Visual Function:
30 lectures and 4 laboratories describing the three dimensional nature of our world and how the visual system copes with this and extracts 3D from 2D retinal images. We examine common anomalies of binocular function and pay particular attention to the anatomical and physiological basis for normal and abnormal development of this system.

Visual Optics:
Redesigned and taught the visual optics labs (six labs) to shift focus from algebraic to more conceptual understanding of defocus, aberrations, pupil effects, and simple optical ray tracing and instrument design.

Guest Lectures

Optics of bifocal contact lenses.
Ocular hazards of ultraviolet radiation.

Seminar Instruction Provided to MS. and Ph.D. Students

I generally customize graduate seminars to match the needs of our students. I include a short list giving examples of courses taught during the last ten years.

Cortical Mapping

Visual Optics

Neural representations of blur

Designing better clinical vision tests

Non-invasive assessment of the visual system

Binocular vision

Visual Development